United States Environmental Protection Agency
Region 10 Emergency Response Unit
POLLUTION REPORT

I. HEADING

Date: November 5, 2001
Subject: Coeur d'Alene River Basin Removal Actions, 2001 Construction Season
From: Bill Longston, OSC, USEPA, Region 10, Emergency Response Unit
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POLREP No.5 (October 29 through November 4)

II. BACKGROUND

Site ID:	IDD048340921
Interagency Agreement No:	DW96957237-01-7
Contract/Task Order No:	DACW41-99-D-9004/EC01
Response Authority:	CERCLA
NPL Status:	Final-Listed on September 8, 1983
State Notification:	Idaho Department of Environmental Quality
Action Memo Status:	Initial Action Memo signed October 6, 1997 Special Circumstances Action Memo signed June 26, 2000
Removal Start Date:	August 2001
Expected Completion Date:	November 2001
Site Web Page:	http://yosemite.epa.gov/r10/cleanup.nsf/sites/cda

III. SITE INFORMATION

A. Incident Category

Time Critical Removal Action (TCRA). For Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) actions where, based on evaluation of site-specific data, the U.S. EPA determines that a removal is appropriate, and that less than six months exists before an on-site removal must begin, a TCRA is initiated.

B. Site Description/Location

The Bunker Hill Mining and Metallurgical Site is located in the panhandle of northern Idaho, in the drainage of the Coeur d'Alene River. The site extends from upstream mining and metallurgical activities downstream to Lake Coeur d'Alene. Cleanup activities at the Bunker Hill Mining and Metallurgical Site to date have focused on 21 square miles encompassing the communities of Pinehurst, Page, Smelterville, Kellogg, and Wardner, Idaho. The site also includes the former locations of the Bunker Hill mine, a concentrator, a lead smelter, an electrolytic zinc plant, a phosphoric acid and fertilizer plant, a cadmium plant, a number of mills, and sulfuric acid plants.

Mining operations began in the area in 1889, with lead smelting starting in 1917. During the majority of the milling and smelting operations, few environmental protection procedures or controls were implemented. Prior to 1938, all liquid and solid residues of mine tailings from the Bunker Hill industrial complex were discharged directly into the Coeur d'Alene River and its tributaries. Thereafter, waste streams were directed to a large outwash plain located west of Kellogg and just north of the Bunker Hill industrial complex. Lead smelter slag was deposited in a pile on the western end of this plain. On the eastern end of the plain, a central impoundment area was developed and was surrounded by a 70-foot high dike of mine tailings and waste rock. All liquid wastes, including mine pump effluent, were directed to the pond for settling and then discharged to the river.

In 1973, a fire occurred in the Bunker Hill smelter baghouse. Without the functioning baghouse, over 1,000 tons of particulate lead were released into the air in this one-year period. Smokestack and other emissions from the smelting operations and acidic water discharged from mines in the area have contaminated the hillsides and other areas surrounding the site, destroying large areas of vegetation.

Historic discharges of wastes from upstream mining and milling operations broadly dispersed lead, zinc, and other hazardous substances downstream through the Coeur d'Alene River Basin, including areas in the towns of Pinehurst, Kellogg, and Smelterville.

The residential and common use areas addressed under this TCRA are located outside the 21 square mile portion of the Bunker Hill site that has been the focus of much of the site clean-up actions to date. These residential and common use areas are located in incorporated and unincorporated areas of Kootenai and Shoshone Counties, Idaho, within the floodplain of the Coeur d'Alene River. The incorporated communities include Osburn, and Wallace. The populations of these commercial and residential communities range from between 200 and 1,500 people. The unincorporated areas are generally agricultural, forest, or pasture lands with relatively low population density.

C. Assessment Results

The Corps of Engineers completed sampling of yards in 2001, the results of which demonstrate at least 13 residential properties are contaminated above soil Early Action Levels (EAL) for, predominately, lead. The EAL for lead in residential soil is 1,000 parts per million (ppm) and in common use areas is 2,000 ppm (see Action Memo, Table 1). Those residential areas exhibiting site-related metals concentrations in excess of the residential EALs have been determined to pose an unacceptable exposure risk and therefore require a TCRA. Similarly, those common use areas exhibiting site-related metals concentration in excess of the common use EALs have also been determined to require a TCRA. Site-related contaminants of concern include antimony, arsenic, cadmium, copper, lead, manganese, mercury, zinc and possibly other metals which are likely present because of historic ore mining, milling, an waste disposal practices and local construction practices.

Clean-up efforts under this TCRA emphasize residential and common use properties with lead-contaminated soil because these areas likely present the greatest risk to children and/or pregnant women.

IV. Response Information

A. Description of Response Activities

Response activities at residential and common use properties addressed under this TCRA have been designed to provide a protective barrier to prevent human exposure to the underlying contaminated soil and include the following:

- Excavation of material contaminated with site-related metals above the EAL to a depth of 12" except:
  - 18" in designated vegetable growing areas, and
  - to a minimally greater depth if such additional excavation allows all material contaminated above Bunker-Hill action levels to be removed from the property,
- Placement of a visual barrier, such as a geotextile, between contaminated material remaining on-site and clean backfill, and
- Backfilling of excavated areas with clean gravel or soil/sod.

B. Situation

1. Current Situation

Tailgate safety meetings are held each morning with the contractor, subcontractor and work crew prior to beginning any activity at each Work Assignment location. General safety procedures are reviewed with additional emphasis on safety issues pertaining to the specific activities to be performed on-site that day, such as of lifting, dust control, working around heavy equipment, working in and around the water, and traffic control.

October 29, 2001 (Monday)

Personnel On-Site: CH2M Hill Constructors (CCI) (4 contractors), Stewart Contracting (Stewart) (18), = Total of 22.
Weather: Cloudy

Description of On-Site Activities:

- Highway 3:
  Work Assignment 2 – 57% complete.
  Fine graded road, trail and parking area. Failed compaction tests on west side of parking lot. Unable to pave due to failed compaction tests.
  Testing - Compaction tests by Budinger.

- M&H Trailer Park:
  Work Assignment 5 - 100% complete.
  No work performed.

- Residences:
  Modified Work Assignment 6 - cumulative 52% complete.
  R316: 95% complete.
  R319: 95% complete.
  R308: 100% complete.
  R302: 100% complete.
  R320: 100% complete.
  R321: Awaiting sod, 80% complete.
  R317: Continued sod placement.. 95% complete.
  R311: Started soil/sod removal. 16 dump truck loads to repository. 60% complete.
  R323: Continued excavation, 18 dump truck loads to repository. 50% complete
  R305: Survey of property boundary.

October 30, 2001 (Tuesday)

Personnel On-Site: CCI (4), Stewart (7), = Total of 11
Weather: Rain

Description of On-Site Activities:

Work Assignment 2 – 57% complete.
Widened trail base to 14' per spec. Proof rolled all road base to seal against moisture.
Testing - Compaction tests by Budinger. All 29 compaction tests exceeded 95% of the modified Proctor dry density.

- M&H Trailer Park:
  Work Assignment 5 - 100% complete.
  No work performed.

- Residences:
  Modified Work Assignment 6 –cumulative 54% complete.
  R316: 95% complete.
  R319: 95% complete.
  R308: 100% complete.
  R302: 100% complete.
  R320: 100% complete.

R321: Awaiting sod, 80% complete.
R317: Continued sod placement.. 95% complete.
R311: Completed excavation, 6 dump truck loads to repository.. Began backfill. 70% complete.
R323: Completed excavation. 12 dump truck loads to repository. Began backfill. 65% complete
R305: No work performed.
Testing: Soil samples from R311 and R323; and Import samples of soil and crushed rock from Zanetti stockpiles were collected by G. Webb, CCI - analysis for Pb, Ar, An, Cd, Zn is being performed by SVL Analytical.

October 31, 2001 (Wednesday)

Personnel On-Site: CCI (4), Stewart (7), = Total of 11
Weather: Rain

Description of On-Site Activities:

- Highway 3:
  Work Assignment 2 – 57% complete.
  No work performed.

- M&H Trailer Park:
  Work Assignment 5 - 100% complete.
  No work performed.

- Residences:
  Modified Work Assignment 6 –cumulative 63% complete.
  R316: 95% complete.
  R319: 95% complete.
  R308: 100% complete.
  R302: 100% complete.
  R320: 100% complete.
  R321: Sod arrived waiting for site to dry out, 80% complete.
  R317: 95% complete.
  R311: Continued import soil. Stopped import due to rain. 75% complete.
  R323: Continued import soil. Stopped import due to rain. 75% complete
  R305 Mobilized began to excavate. 14 truck loads to repository. 40% complete.
  R326: Mobilized began to excavate. 4 truck loads to repository. 40% complete.

November 1, 2001 (Thursday)

Personnel On-Site: CCI (4), Stewart (11), = Total of 15.
Weather: Overcast/Light Rain

Description of On-Site Activities:

- Highway 3:
  Work Assignment 2 – 57% complete.
  No work performed.

  M&H Trailer Park:
  Work Assignment 5 - 100% complete.
  No work performed.

- Residences:
  Modified Work Assignment 6 - cumulative 68% complete.
  R316: 95% complete.
  R319: 95% complete.
  R308: 100% complete.
  R302: 100% complete.
  R320: 100% complete.
  R321: Waiting for site to dry to sod, 80% complete.
  R317: 95% complete.
  R311: 75% complete.
  R323: 75% complete
  R305 Continued excavation. 34 truckloads to the repository. 60% complete.
  R326: Completed excavation. 8 truck loads to repository. 4 truck loads to repository. 60% complete.
  Testing: R305 & R326: Soil samples collected by G. Webb, CCI - analysis for Pb, Ar, An, Cd, Zn is being performed by SVL Analytical.

November 2, 2001 (Friday)

Personnel On-Site: CCI (4), Stewart (11), = Total of 15
Weather:

Description of On-Site Activities:

- Highway 3:
  Work Assignment 2 – 57% complete.
  No work performed.
  Testing - Budinger tested moisture at the west end of parking lot - all passed

- M&H Trailer Park:
  Work Assignment 5 - 100% complete.
  No work performed.

- Residences:
  Modified Work Assignment 6 - cumulative 72% complete.
  R316: 95% complete.
  R319: 95% complete.
  R308: 100% complete.
  R302: 100% complete.
  R320: 100% complete.
  R321: 95% complete. Sod completed. Sites will require final touch up.
  R317: 95% complete. Sod completed. Sites will require final touch up.
  R311: 75% complete.
  R323: 75% complete. Manual backfill required due to wet conditions. 21 truckloads to the repository.
  R305 65% complete. Continued excavation. West end of House, muddy and sinking. Backfill west side with larger rock due to sinking mud. Will cap with 12" soil & crushed rock. 30 truckloads to the repository.
  R326: 90% complete. Lay fabric & backfill.

November 3, 2001 (Saturday)

Personnel On-Site: CCI (2), Stewart (9), = Total of 11
Weather: Partly Cloudy

Description of On-Site Activities:

- Highway 3:
  Work Assignment 2 – 57% complete.
  No work performed.

- M&H Trailer Park:
  Work Assignment 5 - 100% complete.
  No work performed.

- Residences:
  Modified Work Assignment 6 - cumulative 72% complete.
  R316: 95% complete.
  R319: 95% complete. Punch List item completed - Ran compaction equipment on perimeter gravel areas when drying occurs.
  R308: 100% complete.
  R302: 100% complete.
  R320: 100% complete.
  R321: 95% complete. Sod completed. Sites will require final touch up.
  R317: 95% complete. Sod completed. Sites will require final touch up.
  R311: 75% complete.
  R323: 75% complete. Manual backfill required due to wet conditions.
  R305 65% complete. Continued excavation. West end of House, muddy and sinking. Backfill west side with larger rock due to sinking mud. Will cap with 12" soil & crushed rock. 1 truckload to the repository.
  R326: 90% complete. Lay fabric & backfill.
  R328: Started > Completed excavation (7 loads) > completed backfill (6 loads) > completed laying sod.

November 4, 2001 (Sunday)

No work performed

2. Soil Volumes Removed to Date

Summary of Daily Excavation Volumes – Highway 3		
Date	**Volumes**	**Disposal Location**
Total through 10/28/2001	1095	Borrow Area Landfill
10/29/2001	0	N/A
10/30/2001	0	N/A
10/31/2001	0	N/A
11/01/2001	0	N/A
11/02/2001	0	N/A
11/03/2001	0	N/A
11/04/2001	0	N/A
Weekly Total	0 CY	Borrow Area Landfill
TOTAL	1095CY	Borrow Area Landfill

Summary of Daily Excavation Volumes –Residences		
Date	**Volumes**	**Disposal Location**
Total through 10/28/2001	2,630 CY	Borrow Area Landfill
10/29/2001	340	N/A
10/30/2001	180	Borrow Area Landfill
10/31/2001	180	Borrow Area Landfill
11/01/2001	420	Borrow Area Landfill
11/02/2001	510	Borrow Area Landfill
11/03/2001	80	Borrow Area Landfill
11/04/2001	0	N/A
Weekly Total	1,710 CY	Borrow Area Landfill
TOTAL	4,340 CY	Borrow Area Landfill

Summary of Total Daily Excavation Volumes All Properties	
Date	**Volumes**
Total through 10/28/2001	4,715 CY
10/29/2001	340
10/30/2001	180
10/31/2001	180
11/01/2001	420
11/02/2001	510
11/03/2001	80
11/04/2001	0
Weekly Total	1,710 CY
GRAND TOTAL	6,425 CY

3. Properties Completed to Date

Summary of TCRA Properties				
Property	**Start Date**	**Complete Date**	**Area Excavated**	**Volume Excavated**
Highway 3	9/21/01		54,545 Sq. Ft.	1,000 CY
Osburn Middle School	08/13/01	09/03/01	60,000 Sq. Ft.	1,100 CY
M&H Trailer Park	09/05/01	10/09/01	36,546 Sq. Ft.	670 CY
R-302	10/18/01	10/22/01	3,818 Sq. Ft	70 CY
R-308	10/09/01	10/22/01	6,545 Sq. Ft.	120 CY
R-316	10/10/01		20,182 Sq. Ft.	370 CY
R-319	10/15/01	0	25,091 Sq. Ft.	460 CY
R-328	11/03/01	0	2,500 Sq. Ft.	70
R-311	10/25/01	0	14,018 Sq. Ft.	270 CY
R-317	10/24/01	0	3,784 Sq. Ft.	530 CY
R-321	10/23/01	0	3,850 Sq. Ft.	230 CY
R-323	10/26/01	0	4,176 Sq. Ft.	510 CY
R-305	10/31/01	0	18,200 Sq. Ft.	790 CY
R-326	10/31/01	0	3,750 Sq. Ft.	120 CY
R-301	0	0	0 Sq. Ft.	0 CY
R-320	10/23/01	10/24/01	2,685 Sq. Ft.	70 CY
Elk Creek	0	0	0	0 CY

C. Planned Removal Activities

Highway 3: Excavation of quarry spall toe for the geogrids is complete. Construction of the vegetated geogrids is completed except for planting grass. Rain and cool conditions have delayed paving and other site activities. If paving can be completed this week of November 9th, the onsite construction could be completed the week of November 23rd.

Elk Creek: Design work completed. Project will be moved to Spring 2002 to maximize use of capacity of site. Have requested an update from Touch America on their final site needs.

Residences: A total of 13 residences were identified for removal actions this year. Approximately 8 of these have been completed. One of the residences R301 has specifically requested their yard be delayed until Spring 2001. This leaves 4 residences remaining with two of these gravel driveways only. Rainy weather slows the work down but does not prevent the work from proceeding. On-site construction expected to be complete week of November 9th.
Silverhills Middle School Greenhouse. The greenhouse soils are slightly contaminated at 0-6" depth but contain concentrations as high as 30,000 ppm

lead and 1049 ppm arsenic. A work assignment for a removal action inside the greenhouse will be scheduled after confirmation of scope with EPA.

Silverhills Middlschool Field Ponding. Heavy rains this last week resulted in a backup of water designed to drain in the field. The USACE and CCI are evaluating whether any modifications to the site drainage is necessary prior to the next onset of rain.

D. Next Steps

USACE to continue to perform oversight of the removal actions until completion, including liaison activities to ensure that appropriate coordination with property owners continues. USACE to assure efficient winter shut-down in conjunction with completion of as many yard removals as possible.

V. Cost Information

IAG Total $10,935,380.00
Expiration Date December 31, 2001 (needs extension)

Ceiling for Removal Work without Repository $8,935,380.00

Expended to date (since October 1997) = $5,126,956.00

Currently Obligated to Contracts = $6,503,599.00

Amount Remaining for additional Time Critical Removal Action Work = $2,431,781.00

Estimated 2001 CCI costs are summarized below:

Estimated CCI Total $ 1,355,605.38 (without repository at Elk Creek or greenhouse)
Established Contract $ 1,355,605.38

Note: The above accounting of expenditures is an estimate based on figures known to USACE at the time this report was written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

VI Disposition of Wastes

All grubbed material and mine waste-contaminated material requiring removal from the sites have been disposed on-site in the Borrow Area Landfill. A volume inventory of waste material accepted is maintained at the Borrow Area Landfill by the landfill operator Bay West, under USACE oversight. No hazardous wastes have been, or are expected to be, identified during the execution of this TCRA.

VII Distribution

To:

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VIII Status -- Site actions are pending.